1957

STEREO RADIO/TAPE RECORDER
STEREO RADIO/CASSETTENRECORDER
RADIO/MAGNETOPHONE A CASSETTES STEREOPHONIQUE
STEREO RADIO/KASSETTBANDSPELARE
RADIO/REGISTRATORE STEREO

ENGLISH
DEUTSCH
FRANÇAIS
SVENSKA
ITALIANO

GF-5454H
GF-5454HB

OPERATION MANUAL
BEDIENUNGSANLEITUNG
MODE D'EMPLOI
BRUKSANVISNING
MANUALE DI ISTRUZIONI

The Searcher

APSS
Auto Program Search System

SHARP

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Audio-visuelles Material kann Urheberrechte umfassen, die ohne Genehmigung des Eigentümers dieser Urheberrechte nicht aufgenommen werden dürfen. Siehe die entsprechenden nationalen Gesetze.

Note:
Le matériel audio-visuel peut comporter des oeuvres faisant l'object de droits d'auteur qui ne peuvent être enregistrées sans l'autorisation du possesseur du droit d'auteur, veuillez vous référer aux réglementations nationales en vigueur.

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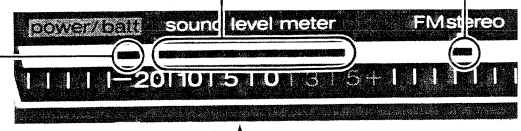
Nota:
Qualora il materiale audio-visivo fosse soggetto a copyright non puó essere registrato senza l'autorizzazione del possessore del copyright. Attenersi alle leggi in vigore sul territorio nazionale.

- Sound Level Indicator
- Klangpegel-Anzeige
- Témoin de niveau sonore
- Ljudnivåindikator
- Indicatore del livello sonoro

- FM Stereo Indicator
- UKW-Stereoanzeige
- Témoin de FM stéréophonique
- FM stereoindikator
- Indicatore FM Stereo

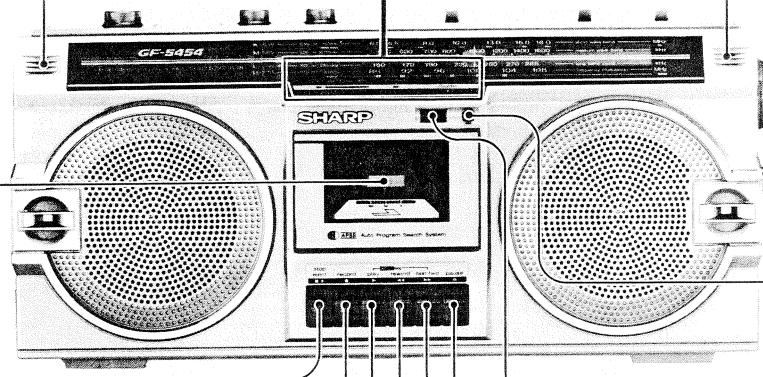
- Built-in Microphone (Right Channel)
- Eingebautes Mikrofon (rechter Kanal)
- Microphone incorporé (Canal droit)
- Inbyggd mikrofon (höger kanal)
- Microfono incorporato (Canale di destra)

- Power On/Battery Indicator
- Einschalt/Batterie-Anzeige
- Témoin de mise sous tension/état des piles
- Strömpåslagnings/batteriindikator
- Indicatore presenza corrente rete/batterie



- Tuning Control
- Abstimmregler
- Commande d'accord
- Avstämningskontroll
- Comando di sintonizzazione

- Built-in Microphone (Left Channel)
- Eingebautes Mikrofon (linker Kanel)
- Microphone incorporé (Canal gauche)
- Inbyggd mikrofon (vänster kanal)
- Microfono incorporato (Canale di sinistra)



- Fine Tuning Control
- Feinabstimmregler
- Commande d'accord précis
- Finavstämningskontroll
- Comando micrometrico di sintonizzazione

- Cassette Compartment
- Cassettenfach
- Compartiment de la cassette
- Kassettfack
- Scomparto cassette

- Tape Counter Reset Button
- Bandzählwerk-Rückstelltaste
- Bouton pour remise à zéro du compteur
- Bandräkneverkets nollställningsknapp
- Pulsante d'azzeramento del contagiri

- Stop/Eject Key
- Stop/Auswurf-Taste
- Touche d'arrêt/éjection
- Stopp/kassettfrigöringsknapp
- Tasto d'arresto/espulsione

- Pause Key
- Pausen-Taste
- Touche de pause
- Pausknapp
- Tasto di pausa

- Digital Tape Counter
- Digitales Bandzählwerk
- Compteur numérique de bande
- Digitalt bandräkneverk
- Contatore numerico

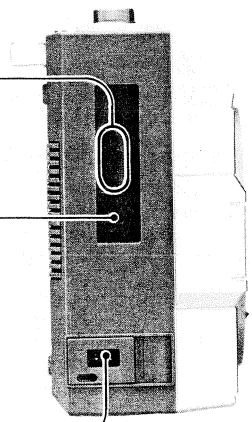
- Record Key
- Aufnahme-Taste
- Touche d'enregistrement
- Inspelningsknapp
- Tasto di registrazione

- Fast Forward/Forwad APSS Key
- Schnellvorlauf/Vorlauf-APSS-Taste
- Touche d'avance rapide/avance APSS
- Snabbframspolnings/APSS-knapp för framspolning
- Tasto d'avanzamento rapido/avazamento APSS

- Play Key
- Wiedergabe-Taste
- Touche de lecture
- Avspelningsknapp
- Tasto di riproduzione

- Rewind/Reverse APSS Key
- Rückspul/Rücklauf-APSS-Taste
- Touche de retour/retour APSS
- Återspolnings/APSS-knapp för återspolning
- Tasto di riavvolgimento/ritorno APSS

- External Speaker Sockets
- Buchsen für Außenlautsprecher
- Douilles de haut-parleur extérieur
- Uttag för yttre högtalare
- Prese altoparlanti esterni



- Headphones Socket
- Kopfhörerbuchse
- Douille de casque
- Uttag för hörtelefon
- Presa cuffie

- AC Power Supply Socket
- Buchse für Netzstromversorgung
- Douille d'alimentation de secteur
- Uttag för växelström
- Presa CA d'alimentazione

For AC voltage level selection, refer to page 4, AC SUPPLY VOLTAGE SELECTOR.

Für die Wahl der Spannung siehe Seite 10 unter NETZSTROM-SPANNUNGSWÄHLER.

Pour la sélection du niveau de tension secteur, se reporter à la page 16, "SELECTEUR DE TENSION D'ALIMENTATION SECTEUR".

För val av växelströmmens spänningsnivå hänvisas till sidan 22, "VÄXELSTRÖMMENS SPÄNNINGSVÄLJARE".

Per la selezione del livello di tensione CA fare riferimento a pagina 28, SELETTORE DI TENSIONE CA D'ALIMENTAZIONE.

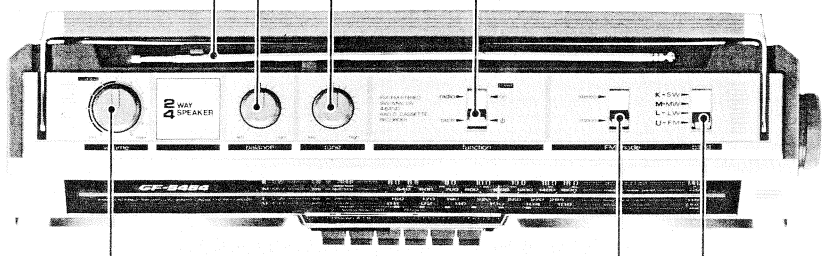
RÖLLERNAS BENÄMNINGAR / NOMENCLATURA DEL COMANDI

- Balance Control
- Balancesteller
- Commande d'équilibrage
- Balanskontroll
- Comando d'equilibratura

- Tone Conrtol
- Klangsteller
- Commande de tonalité
- Tonkontroll
- Comando di tono

- FM/SW Telescopic Rod Aerial
- UKW/KW-Teleskopstabantenne
- Antenne-tige télescopique FM/OC
- Teleskopisk stavantenn för FM/KV
- Antenna telescopica FM/SW

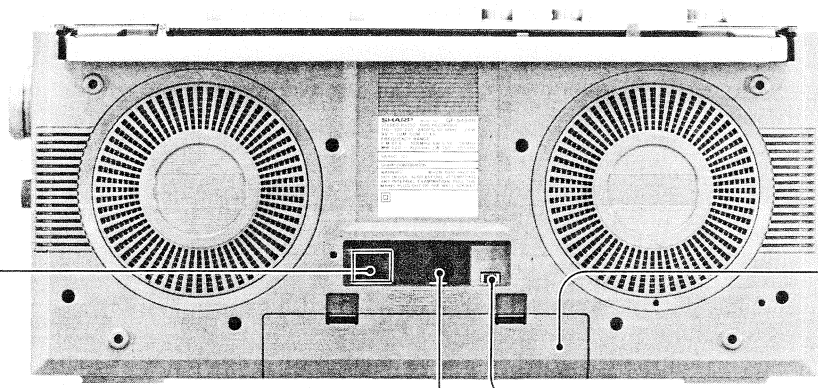
- Function Selector
- Funktionswahlschalter
- Sélecteur de fonction
- Funktionsväljare
- Selettore di funzione



- Volume Control
- Lautstärkesteller
- Commande de volume
- Ljudstyrkekontroll
- Comando di volume

- FM Mode Selector
- UKW-Betriebsartenwahlschalter
- Sélecteur de mode FM
- FM-väljare
- Selettore funzione FM

- Band Selector
- Wellenband-Wahlschalter
- Sélecteur de gamme d'ondes
- Frekvensbandväljare
- Selettore di gamme d'onda



- Battery Compartment
- Batteriefach
- Compartiment des piles
- Batterifack
- Scomparto batterie

- External Microphone Sockets
- Buchsen für ext. Mikrofone
- Douilles de microphone extérieur
- Uttag för yttre mikrofon
- Prese microfoni esterni

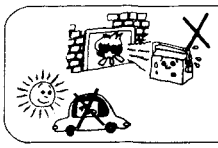
- Record/Playback DIN Socket
- Aufnahme/Wiedergabe-DIN-Buchse
- Douille DIN d'enregistrement/lecture
- DIN-uttag för inspelning/avspelning
- Presa DIN registrazione/riproduzione

- Beat Cancel Switch
- Störschwebungs-Schalter
- Commutateur de suppression de battement
- Omkopplare för störningsundertryckning
- Commutatore di soppressione battimento

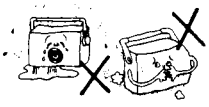
In order to prevent this product from damages at times as transportation, repack it as illustrated on the flap of the packing case.
Um Beschädigung beim Transport zu verhindern, verpackt man das Gerät wie auf der Lasche des Kartons dargestellt.
Afin d'éviter d'endommager ce produit, pendant le transport, le remettre dans son emballage de la façon indiquée sur le rabat de la boîte d'emballage.
För att skydda produkten för skador under dess transport, skall du återpacka den i packlådden enligt illustrationen på packlådans flik.
Per evitare che questo prodotto subisca dei danni durante il transporto, imballarlo nel modo illustrato sul coperchio del imballaggio stesso.

This apparatus complies with requirements of BS 800 and EEC directive 76/889/EEC.
Das Apparat stimmt mit den Bedingungen der EG-Richtlinien 76/889/EWG überein.
Cet appareil répond aux spécifications de la directive CCE 76/889/CCE.
Questo apparecchio è stato prodotto in conformità alle direttive CEE 76/889/CEE.
Dit apparaat voldoet aan de vereisten van EEG-reglementen 76/889/EEC.
Apparatet opfylden kravene i EF direktivet 76/889/EF.

PRECAUTIONS



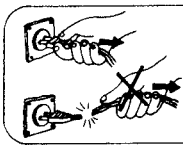
- Do not expose the unit to temperatures greater than 60°C (140°F). This includes leaving the unit inside closed vehicles, placing it in direct sunlight or in the vicinity of heaters, etc.



- Do not expose the unit to moisture, as this will result in damage to internal circuitry.
- Do not locate or store the unit for extended periods in places with high humidity or high concentrations of dust.

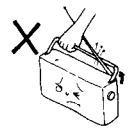
- Do not apply petroleum, any organic solvents, or insecticides to the cabinet surface, as this may result in cracking or other surface damage.

- Do not apply oil to any part of the unit.



- Be sure to hold the AC supply plug – NOT THE LEAD – when removing this plug from the AC outlet. Removing the plug by pulling the lead may result in damaged or broken connections.

- Remove the AC supply lead before servicing or cleaning heads, rollers, etc. Do not remove the unit cover, as this may result in electric shock. Refer all servicing and repairs to your local SHARP dealer.



- When lifting the unit with the handle, make sure the telescopic rod aerial is not raised or extended, as it may get bent or broken off.

- Do not use this unit with AC mains voltages other than those specified, as this may result in damage, fire, etc. SHARP may NOT be held responsible for damage resulting from use of this unit with unspecified voltages.
- When the function selector is set at "tape/⏻" position, the unit is on stand-by, which means that the AC current is cut off only secondarily. Accordingly, be sure to pull off the mains plug out of the wall outlet before making any internal examination or repairs.

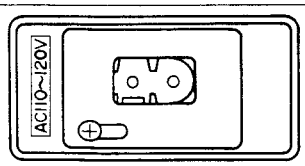
ENGLISH

PREPARATION FOR USE

1 AC SUPPLY VOLTAGE SELECTOR

Be sure to check the voltage setting of the voltage selector before connecting AC supply lead plug to the AC outlet. If necessary, adjust the setting as follows:

1. Loosen the securing screw of the supply voltage selector.
2. Slide the panel right or left, until the correct voltage reading is seen on either side.
3. Secure the screw.



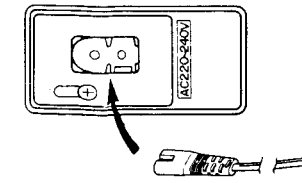
AC 110~120V | AC 220~240V

2 OPERATION FROM AC POWER SUPPLY

Connect the AC supply lead to the unit's AC power supply socket. Next, connect the AC supply lead plug to the AC outlet.
Supply is either 110V~120V or 220V~240V.

NOTE:

- Inserting the AC supply lead into the unit automatically disconnects the batteries. As a result, the AC supply lead must be removed from the unit in order to operate the unit on battery power.
- An AC power supply should be used whenever possible in order to conserve the battery power.



CAUTION:

Disconnect the AC supply lead plug from the AC outlet when the unit is not in use for extended periods.

3 OPERATION FROM DC POWER SUPPLY: BATTERIES

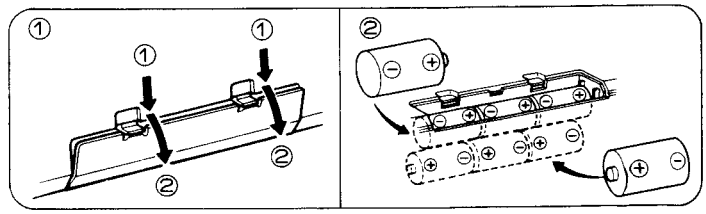
- Disconnect the AC supply lead from the GF-5454H/HB.
- Slide the function selector to the "tape/⏻" position.

BATTERY INSTALLATION

1. Remove the battery compartment cover.
2. Install six new batteries (1.5V cell x6) – UM/SUM-1, R 20, HP-2 or D type – into the compartment.

NOTE: • Battery polarity and location are shown on the back of the unit.

3. Replace the battery compartment cover. The unit is now ready for internal battery power supply operation.



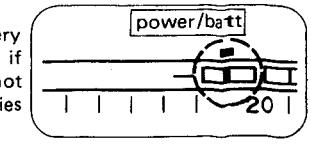
NOTE:

- Remove the batteries when they become weak or when the unit is not in use for extended periods. This will prevent damage to the unit from battery leakage at such times.
- Be sure to keep battery contact parts clean. Dust accumulations between batteries and battery terminals may result in imperfect contacts, and may even prevent the unit from operating.

BATTERY LEVEL CHECK

The battery level indicator shows whether or not the DC power supply is adequate for unit operation.

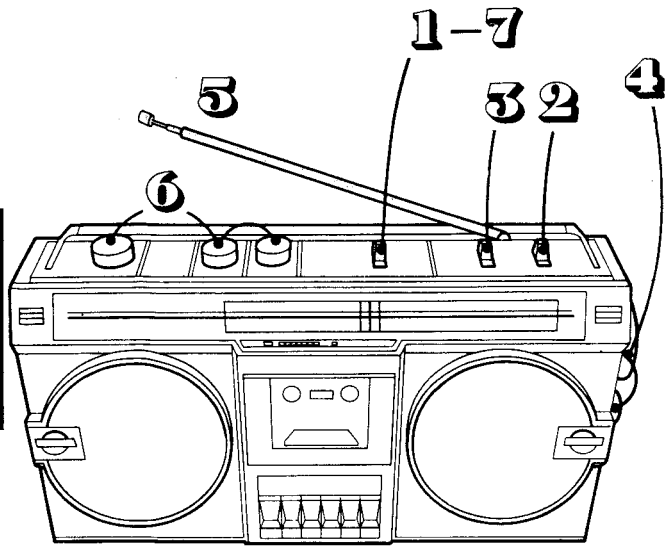
1. Depress the play (▶) key.
2. Battery level is adequate if the battery indicator illuminates. It is inadequate if this indicator is either dim or does not illuminate. In this case new batteries should be installed.



NOTE:

When batteries are weakened, recording sometimes becomes impossible, even though radio broadcasts may be audibly received. Batteries should be replaced at once.

RADIO OPERATION



ENGLISH

1 Slide the function selector to the "radio/on" position. The power indicator illuminates.

2 Slide the band selector to the "FM", "LW", "MW" or "SW" position.

3 With the band selector in the FM position, slide the FM mode selector to the "stereo" position. The FM stereo indicator will illuminate when an FM stereo broadcast is received. Even with the FM mode selector in "stereo" position, mono broadcasts can be received if the broadcasting station is not transmitting a stereo programme at that time. If stereo reception is unsatisfactory, slide the FM mode selector to the "mono" position.

4 Rotate the tuning control in the appropriate direction until the desired broadcast is received. Fine tuning control functions only for SW band.

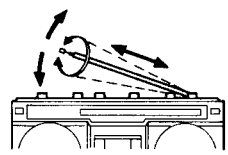
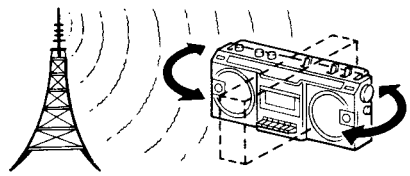
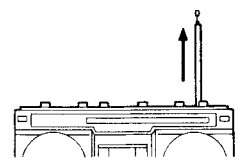
5 Adjust the aerial appropriately to obtain best reception on the band selected. (See below for more detailed instructions on adjusting the aerial).

6 Adjust the volume and tone controls for a comfortable sound. Adjust the balance control for relative speaker output balance dependent on listener's position.

7 Slide the function selector to the "tape/⏻" position to terminate radio operation and extinguish the power indicator.

BUILT-IN LOUDNES CIRCUIT

- Refer to the instructions on page 6 for GENERAL OPERATING INFORMATION.

For receiving FM broadcasts	For receiving LW or MW broadcasts	For receiving SW broadcasts
Raise and extend the telescopic rod aerial. Adjust the position and length of the aerial until FM broadcast reception signal is at peak strength. 	Rotate or locate the unit to receive peak signal strength of the LW or MW broadcast. 	Raise and extend the telescopic rod aerial vertically to its full length. 

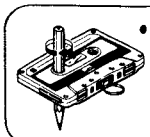
CASSETTE RECORDER OPERATION

1 CASSETTES

CASSETTE TAPE SELECTION

The quality and condition of the cassette tapes used will have a direct effect on the performance of this unit.
Low quality tapes tend to break and stretch, and a broken tape can easily become entangled in the drive mechanism, causing major damage. Stretched tapes will run at uneven speeds and will distort anything recorded on them.

- Use only well-known brands of normal tape.
- Use of C-120 (120 minutes) cassettes is not recommended. The exterme thinness of this tape may result in breakage or other problems.



- Check to ensure there is no loose layers of tape visible through the cassette centre window. Tighten these loose layers with a pencil or ball-point pen before inserting the cassette into the unit.

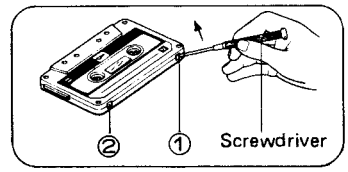
NOTES FOR STORING CASSETTE TAPES

1. Do not locate cassettes near objects with a strong magnetic field, such as radios, TV or loudspeakers. Magnetic fields may reduce the tape sensitivity or even erase the recording.
2. Do not store cassettes for extended periods in hot, moist or dusty location.

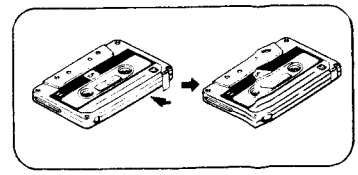
PROTECTION AGAINST CASSETTE TAPE ERASURE

All cassette tapes are provided with tabs which, when in place, allow tape erasure to be performed. If these tabs are removed, the tape cannot be erased (the record (●) key cannot be depressed).
To protect the A (or "1") side of cassette tape, break off the A side tab with a screwdriver. Follow the same procedure for B (or "2") side.

The tape can be re-recorded or erased by covering the tab holes with plastic tape.



① ..... Side "A" protection tab
② ..... Side "B" protection tab

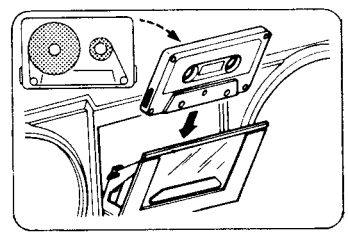


- Cassette tape with side "A" uppermost.

LOADING AND UNLOADING THE CASSETTE TAPES

- Stop the tape before opening the cassette compartment.

1. Depress the stop/eject (■⏏) key to open the cassette compartment.
2. Load the cassette tape into the compartment so that title of tape track to be used is facing outwards. If tape is wound onto the right-hand spool, it must either be rewound, or the tape side to be used must be reversed.
   Note:
   The cassette will not enter the compartment with the exposed tape edge uppermost.
3. Close the compartment lid.



Unloading:
Depress the stop/eject (■⏏) key to open the cassette compartment and remove the tape.

2 GENERAL OPERATING INFORMATION

AUTO STOP SYSTEM
When the end of the tape is reached while the unit is operating in the recording or playback mode the auto stop system is activated and automatically puts the unit into the neutral (stop) mode. This auto stop system is not activated when the unit is in the fast forward or rewind mode.

NOTE:

The auto stop system may not operate during recording or playback of tape if the unit is operating on DC power supply (batteries) and the battery level is inadequate.

HOW TO STOP TAPE
To stop the tape when the unit is in the recording, playback, fast forward or rewind mode, depress the stop/eject (■ ▲) key.

ALC (Automatic Record Level Control) CIRCUIT
The ALC circuit automatically controls the level of input signal strength used for recording.

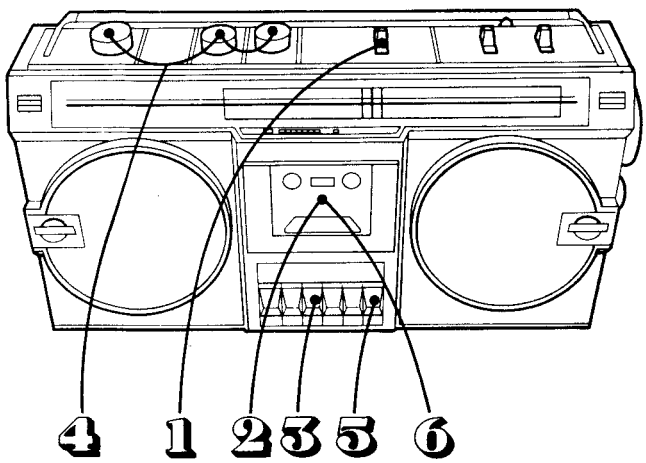
BUILT-IN LOUDNESS CIRCUIT
When the unit's volume control is set at any level between 0 and 5, the built-in loudness circuit is activated to compensate for bass and treble deficiencies.

MODE SELECTION
Before changing from one mode to another while the unit is operating in the recording, playback, fast forward or rewind mode, be sure to first depress the stop/eject (■ ▲) key.

For APSS operation, however, it is not needed to depress the stop/eject (■ ▲) key in advance: to start it, only depress the fast forward (▶▶) or rewind (◀◀) key when the play (▶) key is being depressed.

ENGLISH

3 PLAYBACK

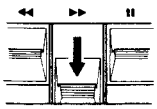


1. Slide the function selector to the "tape/ ⏻ " position.
2. Load a pre-recorded cassette tape into the compartment (refer to instructions on page 5).
3. Depress the play (▶) key to begin playback.
4. Adjust the volume, balance, and tone controls to a comfortable level.
5. Depress the pause (❚❚) key to discontinue playback temporarily. The tape will stop at the point where this key is depressed, and resume from this point when the key is depressed a second time.
6. To listen to the reverse side of the tape, unload the cassette, reverse it and reload it in the cassette compartment.

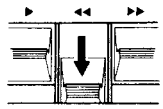
CAUTION:

Do not allow any keys to remain depressed when the unit is not in use, as this may result in damage to the pinch roller.

FAST FORWARD
Depress the fast forward (▶▶) key for fast forward winding of the tape.



REWIND
Depress the rewind (◀◀) key to rewind the tape.



Caution:
When the end of the tape is reached in fast forward or rewind mode, the tape will stop, but the motor will continue to rotate. Depress the stop/eject (■ ▲) key immediately.

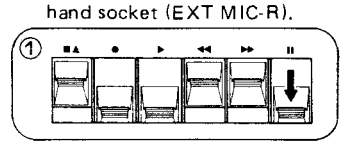
4 APSS (Auto Program Search System)

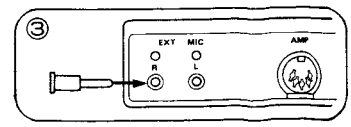
SHARP's APSS speeds forward or backward to locate the programme you wish to hear, and plays it back to you automatically.

NOTES ON APSS OPERATION
1. The APSS may not function perfectly at all times with tapes containing the following characteristics:
   a. The recorded signal on the tape is of an intermittent nature (speech, music with silent passages etc.).
   b. The recorded signal on the tape contains soft classical music, solo performance, modern jazz, etc.
   c. The recorded signal on the tape is of low strength.
   d. The recorded programme items are separated by less than a three second gaps (during which there occurs no signal).
   e. The recorded programme items are separated by gaps which are not free of noise or stray signals.
2. Avoid locating the unit in the vicinity of powerful magnetic fields, such as those generated by TV sets, dynamos or other electrical appliances.
3. When the APSS is functioning (searching for a programme item in either forward or reverse), the speakers may emit a slight high-pitched sound. This is not due to any malfunction of the unit, and does not present need for alarm.
4. The APSS sytem does not function during radio reception.

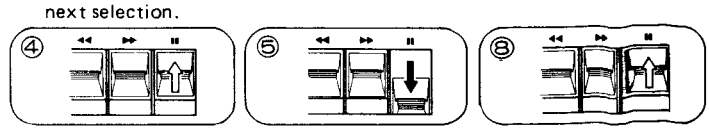
PREPARATION OF TAPES FOR APSS
In order for the APSS to operate correctly, there must a space of at least 4 second duration between each item on the tape. In order to edit space (non-signal space) on tapes, follow the instruction below.

1. Depress the pause (❚❚) key during recording at a point suitable for selection editing.
2. Slide the function selector to the "tape/ ⏻ " position.
3. Connect the erasing plug (supplied) to external microphone right-hand socket (EXT MIC-R).





4. Depress the pause (❚❚) key to release it.
5. After sufficient editing time (about 5 second) has elapsed, depress the pause (❚❚) key.
6. Remove the erasing plug from its socket.
7. In order to record from the unit's radio, slide the function selector to the "radio/on" position.
8. Depress the pause (❚❚) key to release it and begin recording of the next selection.



9. Perform steps 1–8 to edit spaces between selections when the tape may be used for future APSS operation.

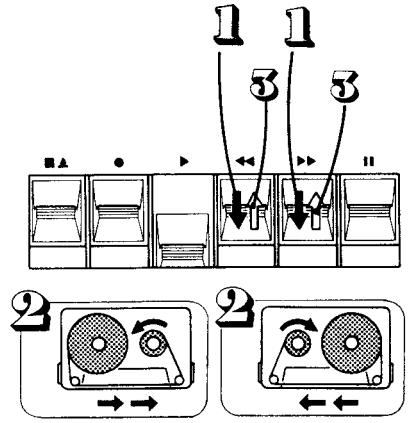
– APSS (Auto Program Search System) –

FORWARD APSS OPERATION

This operation searches the tape in a forward direction to locate the beginning of a programme.

1. If you depress the forward APSS (▶▶) key while the tape is playing, the tape will advance to the beginning of the next programme.
2. The tape moves rapidly forward until the GF-5454H/HB scanning sensor locates the next gap preceding a programme.
3. Play automatically resumes when the gap before the next programme is reached.

Forward APSS Pause Control:
If it is desired to stop the tape at the beginning of the selection, depress the pause (II) key prior to performing the above operations.



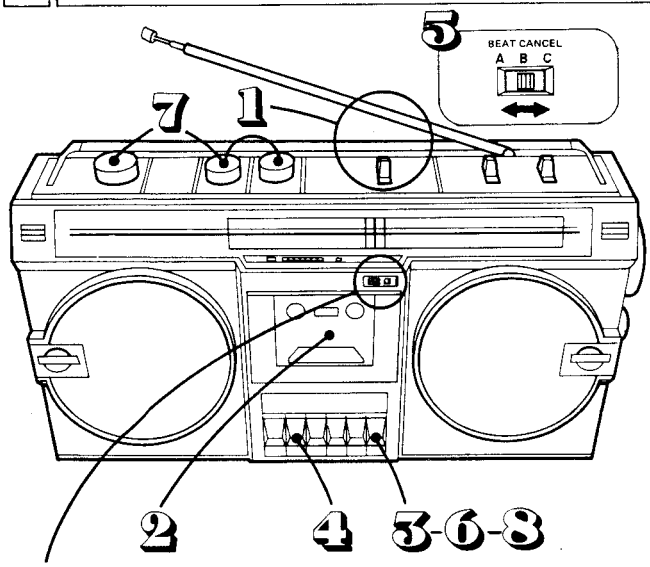
REVERSE APSS OPERATION

This operation searches the tape in a reverse direction to locate the beginning of a programme.

1. If you depress the reverse APSS (◀◀) key while a programme is playing, the tape will rewind to the beginning of that programme.
2. The tape reverses rapidly and the GF-5454 H/HB sensor searches for the gap preceding the programme.
3. Play automatically resumes when the gap preceding the programme is reached.

Reverse APSS Pause Control:
If it is desired to stop the tape at the beginning of the selection, depress the pause (II) key prior to performing the above operations.

5 RECORDING FROM THE UNIT'S RADIO



DIGITAL TAPE COUNTER
Depress the button at the side of the counter to reset to "000".
The counter will advance while recording or playback is in progress.
These readings provide a useful reference during recording and playback.

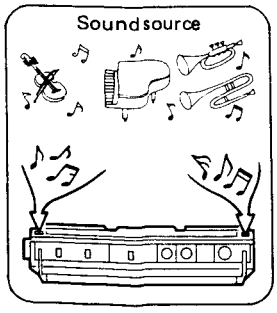
All keys will be released automatically when the end of the tape is reached. However, radio reception will continue uninterrupted.

1. Tune to the desired station (refer to instructions on page 5).
2. Load a cassette into the cassette compartment (refer instructions on page 5). Make sure that the protection tabs are intact (refer to page 5).
3. Depress the pause (II) key.
4. Depress the record (●) key. This will also engage the play (▶) key.
5. Slide the BEAT CANCEL switch to the A, B or C position, that is, to the position allowing the lowest level of interference during the LW, MW or SW broadcast.
6. Depress the pause (II) key a second time to release it and begin recording.
7. The volume, balance and tone controls may be adjusted with no effect on the recording level of input signal.
8. Depress the pause (II) key to temporarily discontinue recording. The tape will stop at this point. To resume recording from the same point, release the pause (II) key by depressing it a second time.
9. During the recording of radio programme it is necessary to edit spaces between programme selections for future APSS use (refer to instructions on page 6).

6 RECORDING FROM THE UNIT'S MICROPHONES

NOTE:

- Do not connect any plug to the external microphone sockets (EXT MIC) and record/playback socket (AMP) during recording with the unit's microphones.
- Monitoring of recording is not possible.

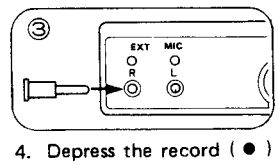


1. Slide the function selector to the "tape/ ⏻ " position.
2. Turn the front panel of the unit so that it is facing the sound source and locate the unit for optimal reproduction.
3. Perform steps 2 to 4 and step 6 of RECORDING FROM THE UNIT'S RADIO.

7 ERASING RECORDED TAPES

Previously recorded material will be erased automatically whenever new material is re-recorded onto the tape.
If it is desired to erase a previously recorded tape without recording over it, follow the instructions below.

1. Load the tape to be erased into the cassette compartment.
2. Slide the function selector to the "tape/ ⏻ " position.
3. Connect the erasing plug (supplied) to the external microphone right socket (EXT MIC-R).



Caution:
Be absolutely sure to connect the erasing plug to the right socket.
If you connect it to the left socket, the previously recorded material will not be erased.

4. Depress the record (●) key. This will automatically engage the play (▶) key and begin erasing the tape.

NOTE:

Do not connect any microphone to the external microphone left socket (EXT MIC-L) during erasing.

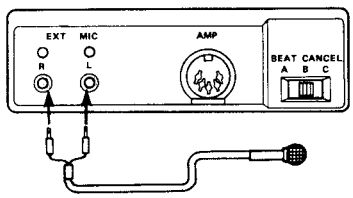
USE WITH EXTERNAL UNITS

1 RECORDING FROM AN EXTERNAL MICROPHONE

NOTE ON USING MICROPHONES:

- Avoid feedback (howling) by separating external microphone from speakers or by reducing volume.
- Stereo microphone should be of 400 ohms to 3k ohms impedance, with a 3.5mm in diameter.
  SHARP microphone MC-57CL or MC-55CL (optional accessory) is recommended.

1. Connect the microphone plugs to the external microphone right-hand socket (EXT MIC-R) and the external microphone left-hand socket (EXT MIC-L).
2. Slide the function selector to the "tape/ ⏻ " position.
3. Perform steps 2 to 4, and step 6 of RECORDING FROM THE UNIT'S RADIO on page 7.



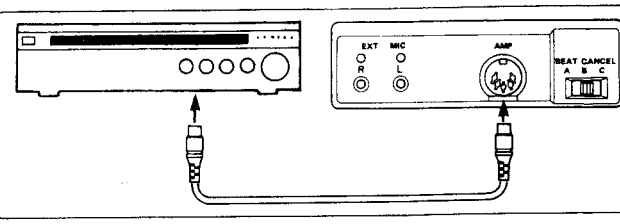
NOTE:

When using a monaural microphone, be sure to connect the microphone to the righthand socket (EXT MIC-R).

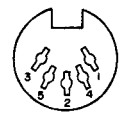
2 CONNECTING AN AMPLIFIER

Use a standard lead fitted with DIN plugs to connect the unit to amplifier. This type lead permits recording and playback via external equipment.

1. Plug one end of lead into the stereo record/playback socket (AMP).
2. Plug the other end of lead into DIN type socket of the amplifier.



3. Record/playback socket connections are shown below.
   If amplifier is not supplied with such a fitting, an alternative lead and fitting can be supplied by dealer.



1	Left Input
2	Common Earth
3	Left Output
4	Right Input
5	Right Output

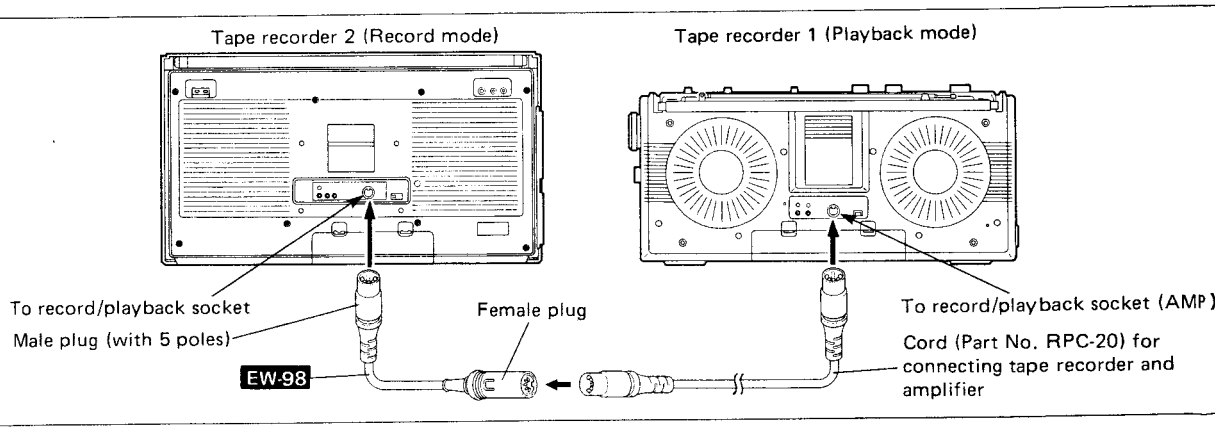
4. Adjust the unit to record mode (page 7) or to playing mode (page 6).

3 DUBBING

1. The use of a dubbing adaptor (not supplied, Part No. EW-98) permits the connection of two recorders for tape dubbing. The illustration below shows how to connect the units in order to dub programmes of tape recorder 1 onto tape recorder 2.
   Note that satisfactory results may not be obtained if proper connection procedure is not followed.
2. Set the tape recorder 2 in recording mode, and tape recorder 1 in playing mode.

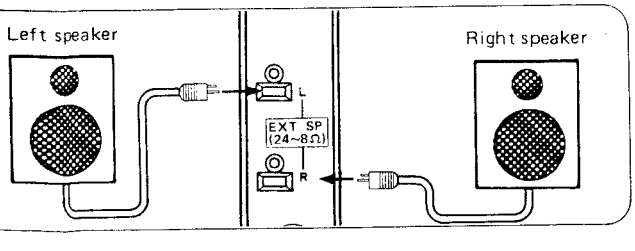
WARNING:

Do not connect another tape recorder to the record/playback socket of this unit without using a dubbing adaptor.


Tape recorder 2 (Record mode)
Tape recorder 1 (Playback mode)
To record/playback socket
Male plug (with 5 poles)
Female plug
EW-98
To record/playback socket (AMP)
Cord (Part No. RPC-20) for connecting tape recorder and amplifier

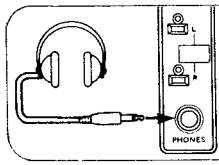
4 CONNECTING EXTERNAL SPEAKERS

Use the external speaker leads with DIN plugs (Speakers, leads, and plugs not supplied). Speakers require 2.4 ohms to 8 ohms impedance. Fit the speaker leads to speaker system that phasing (polarity) of speakers is equal. For this it may be necessary to cousult your SHARP service engineer.
Connect the external speaker plugs to the appropriate external speaker sockets (EXT SP). This connection automatically cuts output to the internal speakers.



5 HEADPHONES

Connect headphones plug to the PHONES socket of the unit. Speaker output will be automatically disconnected. The volume level can be adjusted with the volume control.



Recommended SHARP stereo headphones: HP-30, HP-40, HP-200, HP-300 or HP-400H. Headphones with 8 ohms ~ 25 ohms impedance are also suitable for use.

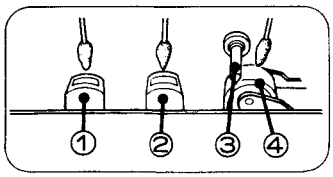
ENGLISH

MAINTENANCE

CLEANING THE TAPE HEADS

Clean the heads frequently to remove dust and tape residue.
Dirt on the heads will impair the sound quality of both recording and playback.
There are two methods for cleaning heads:

A. The simpler method is to use a head cleaning cassette, available at most audio stores. Follow the instructions supplied with the cleaning cassette.
B. The heads can be also cleaned manually:
   1. Depress the stop/eject (■ ⏏) key in order to open the cassette compartment. Remove the cassette tape in the compartment.
   2. Depress the play (▶) key.
   3. Wipe the heads with a soft lint-free cloth or cotton swab that has been partially soaked in alcohol (methylated spirit), until the heads are free of all dirt and residue deposits.



① ..... Erasing head
② ..... Recording/playback head
③ ..... Capstan
④ ..... Pinch roller

CLEANING MECHANICAL PARTS

Dust or magnetized particles attached to the capstan or pinch roller are the direct cause of uneven tape speed during recording and playback. This is the cause of "wow" and "flutter", namely tape speed variations below and above normal speed, respectively. The capstan or pinch roller, should therefore be thoroughly cleaned with a soft lint-free cloth or cotton swab partially soaked in alcohol (methylated spirit).

CLEANING THE CABINET

Use only a damp cloth for cleaning the cabinet.

SPECIFICATIONS

Power source:		AC 110V ~ 120V and 220V ~ 240V, 50/60Hz DC 9V (UM/SUM-1, R20, HP-2 or D type x 6)
Speakers:		12cm woofer x 2 Ceramic type tweeter x 2
Output power: (DIN 45 324)		MPO; 9.6W (4.8W + 4.8W) (AC operation) RMS; 5.8W (2.9W + 2.9W) (DC operation)
Semiconductors:		6 ICs 9 transistors 21 diodes 7 LEDs
Dimensions:	Width;	500mm
	Depth;	120mm
	Height;	226mm
Weight:		3.9 kg without batteries

TAPE RECORDER

Tape:	Compact cassette tape
Frequency response:	50Hz ~ 10,000Hz
Signal/noise ratio:	50dB
Wow and flutter:	0.28% (DIN 45 511)
Input sensitivity and impedance:	
External mic.;	600 ohms
Record/playback socket;	0.7mV/5.6k ohms
Loaded impedance:	
Headphones;	8 ohms ~ 25 ohms
External speakers;	2.4 ohms ~ 8 ohms

RADIO

Frequency range:	FM ; 87.6 MHz – 108 MHz LW ; 150 kHz – 285 kHz MW; 520 kHz – 1,620 kHz SW ; 5.95 MHz – 18.0 MHz

Sharp reserves the right to make design and specification changes for product improvement.

MEMO